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(71) Applicant *(for all designated States except US)*: **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **TUYLS, Pim, T.** [BE/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **KEVENAAR, Thomas, A., M.** [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **SCHRIJEN, Geert, J.** [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **VAN DIJK, Marten, E.** [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agent: **GROENENDAAL, Antonius, W., M.**; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

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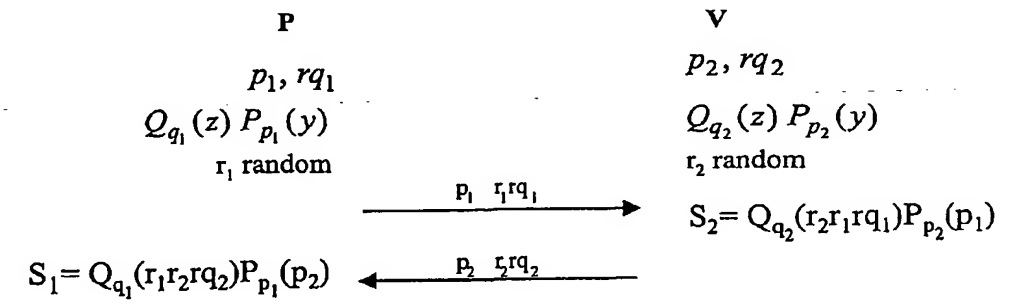
(54) Title: POLYNOMIAL-BASED MULTI-USER KEY GENERATION AND AUTHENTICATION METHOD AND SYSTEM



(57) Abstract: A method of generating a common secret between a first party and a second party, preferably devices (101-105) in a home network (100) that operate in accordance with a Digital Rights Management (DRM) framework. The devices calculate the common secret by evaluating the product of two polynomials P(x, y) and Q(x, z) using parameters previously distributed by a Trusted Third Party (TTP) and parameters obtained from the other party. Preferably the parties subsequently verify that the other party has generated the same secret using a zero-knowledge protocol or a commitment-based protocol. The method is particularly suitable for very low power devices such as Chip-In-Disc type devices.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L9/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MENEZES, VANSTONE, OORSCHOT: "Handbook of applied cryptography" 1997 , CRC PRESS , USA XP002244107 * page 405 - page 410 * * page 524 - page 527 *	1-19
A	ROLF BLOM: "Non-Public Key Distribution" SPRINGER-VERLAG. CRYPTO 82, 1982, XP002244106 page 231 -page 236	1-19

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Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	San Millán Maeso, J